

09/297,703 1

~~delete - do not use in~~  
~~SEQUENCE LISTING~~

new sequence rules  
format

Does Not Comply  
Corrected Diskette Needed

RECEIVED

MAY 02 2001

TECH CENTER 1600/2900

<110> ~~APPLICANTS:~~ *move up to <110> line*  
~~(A)~~ Jobling, Stephen Alan  
~~(B)~~ Safford, Richard

<120> ~~TITLE OF INVENTION:~~ Improvements in or Relating to Starch Content  
of Plants

<130> Case 1637

<140> US 09/297,703

<141> 1999-07-19

<150> PCT/GB97/03032

<151> 1997-11-04

<160> 36

<170> Microsoft WORD 97

<210> ~~SEQ ID NO:~~ #1

<211> ~~LENGTH:~~ 20 base pairs

<212> DNA

<213> Manihot, esculenta

<220>

<221>

<222>

<223>

*delete, if no response on <221>, <222>, or <223>*

<300> WO 98/20145 published 1998-05-14

*see next page - do not*

<301>

<302>

<303>

<304>

<305>

<306>

<307>

<308>

*delete - no response*

*insert response  
to <300>. <300>  
is a "header" only*

*Keep as <300>*

*Do NOT use  
alphabetical headings  
when employing new  
sequence rules format.*

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2

~~<309>~~ delete

<310> WO 98/20145

~~<311>~~ delete

<312> 1998-05-14

~~<313>~~ delete

~~<400> SEQ ID NO: #1  
ATGGACAAGG ATATGTATGA~~

use lower-case letters when

20

<210> ~~SEQ ID NO: #2~~

Sequence Listing is in  
new Sequence Rules  
format

<211> ~~LENGTH: 20 base pairs~~

<212> DNA

<213> Manihot, esculenta

~~<220>~~

~~<221>~~

~~<222>~~

~~<223>~~

delete, if no <221>, <222>, or <223>  
response

~~<300> WO 98/20145 published 1998-05-14~~

Keep <300> WITHOUT responses

~~<301>~~

~~<302>~~

~~<303>~~

~~<304>~~

~~<305>~~

~~<306>~~

~~<307>~~

~~<308>~~

~~<309>~~

delete

<310> WO 98/20145

~~<311>~~ delete

<312> 1998-05-14

~~<313>~~ delete

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<400> SEQ ID NO: #2

GGTTTCATGA CTTCTGAGCA

use lower-case letters

20

These pages are given as a sample of  
globally erred format.

See next pages

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<210> ~~SEQ ID NO: #29~~

<211> ~~LENGTH: 837 amino acids~~

<212> PRT

<213> Manihot, esculenta

<220>

<221>

<222>

<223>

*delete*

<300> ~~WO 98/20145 published 1998-05-14~~

<301>

<302>

<303>

<304>

<305>

<306>

<307>

<308>

<309>

*delete*

<310> WO 98/20145

<311> *delete*

<312> 1998-05-14

<313> *delete*

<400> ~~SEQ ID NO: #29~~

Met Gly His Tyr Thr Ile Ser Gly Ile Arg Phe Pro Cys Ala Pro Leu  
1 5 10 15

Cys Lys Ser Gln Ser Thr Gly Phe His Gly Tyr Arg Arg Thr Ser Ser  
20 25 30

Cys Leu Ser Phe Asn Phe Lys Glu Ala Phe Ser Arg Arg Val Phe Ser  
35 40 45

Gly Lys Ser Ser His Glu Ser Asp Ser Ser Asn Val Met Val Thr Ala  
50 55 60

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5

Ser Lys Arg Val Leu Pro Asp Gly Arg Ile Glu Cys Tyr Ser Ser Ser  
 65 70 75 80  
 Thr Asp Gln Leu Glu Ala Pro Gly Thr Val Ser Glu Glu Ser Gln Val  
 85 90 95  
 Leu Thr Asp Val Glu Ser Leu Ile Met Asp Asp Lys Ile Val Glu Asp  
 100 105 110  
 Glu Val Asn Lys Glu Ser Val Pro Met Arg Glu Thr Val Ser Ile Arg  
 115 120 125  
 Lys Ile Gly Ser Lys Pro Arg Ser Ile Pro Pro Pro Gly Arg Gly Gln  
 130 135 140  
 Arg Ile Tyr Asp Ile Asp Pro Ser Leu Thr Gly Phe Arg Gln His Leu  
 145 150 155 160  
 Asp Tyr Arg Tyr Ser Gln Tyr Lys Arg Leu Arg Glu Glu Ile Asp Lys  
 165 170 175  
 Tyr Glu Gly Ser Leu Asp Ala Phe Ser Arg Gly Tyr Glu Lys Phe Gly  
 180 185 190  
 Phe Ser Arg Ser Glu Thr Gly Ile Thr Tyr Arg Glu Trp Ala Pro Gly  
 195 200 205  
 Ala Thr Trp Ala Ala Leu Ile Gly Asp Phe Asn Asn Trp Asn Pro Asn  
 210 215 220  
 Ala Asp Val Met Thr Gln Asn Glu Cys Gly Val Trp Glu Ile Phe Leu  
 225 230 235 240  
 Pro Asn Asn Ala Asp Gly Ser Pro Pro Ile Pro His Gly Ser Arg Val  
 245 250 255  
 Lys Ile Arg Met Asp Thr Pro Ser Gly Asn Lys Asp Ser Ile Pro Ala  
 260 265 270  
 Trp Ile Lys Phe Ser Val Gln Ala Pro Gly Glu Leu Pro Tyr Asn Gly  
 275 280 285  
 Ile Tyr Tyr Asp Pro Pro Glu Glu Glu Lys Tyr Val Phe Lys Asn Pro  
 290 295 300  
 Gln Pro Lys Arg Pro Lys Ser Leu Arg Ile Tyr Glu Ser His Val Gly  
 305 310 315 320  
 Met Ser Ser Thr Glu Pro Val Ile Asn Thr Tyr Ala Asn Phe Arg Asp  
 325 330 335  
 Asp Val Leu Pro Arg Ile Lys Lys Leu Gly Tyr Asn Ala Val Gln Leu  
 340 345 350  
 Met Ala Ile Gln Glu His Ser Tyr Tyr Ala Ser Phe Gly Tyr His Val  
 355 360 365

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Asn | Phe | Tyr | Ala | Ala | Ser | Ser | Arg | Phe | Gly | Thr | Pro | Asp | Asp | Leu | 370 | 375 | 380 |     |
| Lys | Ser | Leu | Ile | Asp | Lys | Ala | His | Glu | Leu | Gly | Leu | Leu | Val | Leu | Met | 385 | 390 | 395 | 400 |
| Asp | Ile | Val | His | Ser | His | Ala | Ser | Thr | Asn | Thr | Leu | Asp | Gly | Leu | Asn | 405 | 410 | 415 |     |
| Met | Phe | Asp | Gly | Thr | Asp | Gly | His | Tyr | Phe | His | Ser | Gly | Pro | Arg | Gly | 420 | 425 | 430 |     |
| His | His | Trp | Met | Trp | Asp | Ser | Arg | Leu | Phe | Asn | Tyr | Gly | Ser | Trp | Glu | 435 | 440 | 445 |     |
| Val | Leu | Arg | Phe | Leu | Leu | Ser | Asn | Ala | Arg | Trp | Trp | Leu | Asp | Glu | Tyr | 450 | 455 | 460 |     |
| Lys | Phe | Asp | Gly | Phe | Arg | Phe | Asp | Gly | Val | Thr | Ser | Met | Met | Tyr | Thr | 465 | 470 | 475 | 480 |
| His | His | Gly | Leu | Gln | Val | Asp | Phe | Thr | Gly | Asn | Tyr | Asn | Glu | Tyr | Phe | 485 | 490 | 495 |     |
| Gly | Tyr | Ala | Thr | Asp | Val | Asp | Ala | Val | Val | Tyr | Leu | Met | Leu | Leu | Asn | 500 | 505 | 510 |     |
| Asp | Met | Ile | His | Gly | Leu | Phe | Pro | Glu | Ala | Val | Thr | Ile | Gly | Glu | Asp | 515 | 520 | 525 |     |
| Val | Ser | Gly | Met | Pro | Thr | Val | Cys | Ile | Pro | Val | Glu | Asp | Gly | Gly | Val | 530 | 535 | 540 |     |
| Gly | Phe | Asp | Tyr | Arg | Leu | His | Met | Ala | Val | Ala | Asp | Lys | Trp | Val | Glu | 545 | 550 | 555 | 560 |
| Ile | Ile | Gln | Lys | Arg | Asp | Glu | Asp | Trp | Lys | Met | Gly | Asp | Ile | Val | His | 565 | 570 | 575 |     |
| Met | Leu | Thr | Asn | Arg | Arg | Trp | Leu | Glu | Lys | Cys | Val | Ser | Tyr | Ala | Glu | 580 | 585 | 590 |     |
| Ser | His | Asp | Gln | Ala | Leu | Val | Gly | Asp | Lys | Thr | Ile | Ala | Phe | Trp | Leu | 595 | 600 | 605 |     |
| Met | Asp | Lys | Asp | Met | Tyr | Asp | Phe | Met | Ala | Leu | Asp | Arg | Pro | Ser | Thr | 610 | 615 | 620 |     |
| Pro | Leu | Ile | Asp | Arg | Gly | Val | Ala | Leu | His | Lys | Met | Ile | Arg | Leu | Ile | 625 | 630 | 635 | 640 |
| Thr | Met | Gly | Leu | Gly | Gly | Glu | Gly | Tyr | Leu | Asn | Phe | Met | Gly | Asn | Glu | 645 | 650 | 655 |     |
| Phe | Gly | His | Pro | Glu | Trp | Ile | Asp | Phe | Pro | Arg | Gly | Asp | Leu | His | Leu | 660 | 665 | 670 |     |

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Pro Ser Gly Lys Phe Val Pro Gly Asn Asn Tyr Ser Tyr Asp Lys Cys  
675 680 685

Arg Arg Arg Phe Asp Leu Gly Asn Ser Lys His Leu Arg Tyr His Gly  
690 695 700

Met Gln Glu Phe Asp Gln Ala Ile Gln His Leu Glu Glu Ala Tyr Gly  
705 710 715 720

Phe Met Thr Ser Glu His Gln Tyr Ile Ser Arg Lys Asp Glu Arg Asp  
725 730 735

Arg Ile Ile Val Phe Glu Arg Gly Asn Leu Val Phe Val Phe Asn Phe  
740 745 750

His Trp Thr Ser Ser Tyr Ser Asp Tyr Arg Val Gly Cys Leu Lys Pro  
755 760 765

Gly Lys Tyr Lys Ile Val Leu Asp Ser Asp Asp Pro Leu Phe Gly Gly  
770 775 780

Phe Gly Arg Leu Ser His Asp Ala Glu His Phe Ser Phe Glu Gly Trp  
785 790 795 800

Tyr Asp Asn Arg Pro Arg Ser Phe Met Val Tyr Thr Pro Cys Arg Thr  
805 810 815

Ala Val Val Tyr Ala Leu Val Glu Asp Glu Val Glu Asn Glu Leu Glu  
820 825 830

Pro Val Ala Gly 835

\* delete ending stop codon and adjust <211> response

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

FYI

Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Please consult sample Sequence Listing (attached) for valid format.

<110> Smith, John; Smithgene Inc.

<120> Example of a Sequence Listing

<130> 01-00001

<140> PCT/EP98/00001

<141> 1998-12-31

<150> US 08/999,999

<151> 1997-10-15

<160> 4

<170> PatentIn version 2.0

<210> 1

<211> 389

<212> DNA

<213> Paramecium sp.

<220>

<221> CDS

<222> (279)...(389)

<300>

<301> Doe, Richard

<302> Isolation and Characterization of a Gene Encoding a  
Protease from Paramecium sp.

<303> Journal of Genes

<304> 1

<305> 4

<306> 1-7

<307> 1988-06-31

<308> 123456

<309> 1988-06-31

|            |            |             |            |            |            |  |     |
|------------|------------|-------------|------------|------------|------------|--|-----|
| <400>      | 1          |             |            |            |            |  |     |
| agctgtagtc | attcctgtgt | cctctttctct | ctgggcttct | caccctgcta | atcagatctc |  | 60  |
| agggagagtg | tcttgaccct | cctctgcctt  | tgcagcttca | caggcaggca | ggcaggcagc |  | 120 |
| tgatgtggca | attgctggca | gtgccacagg  | cttttcagcc | aggcttaggg | tgggttcgc  |  | 180 |
| cgcggcgcgg | cggccctct  | cgcgctcctc  | tcgcgcctct | ctctcgctct | cctctcgctc |  | 240 |



ggacctgatt aggtgagcag gaggaggggg cagttagc atg gtt tca atg ttc agc 296  
Met Val Ser Met Phe Ser  
1 5

ttg tct ttc aaa tgg cct gga ttt tgt ttg ttt gtt tgt ttg ttc caa 344  
Leu Ser Phe Lys Trp Pro Gly Phe Cys Leu Phe Val Cys Leu Phe Gln  
10 15 20

tgt ccc aaa gtc ctc ccc tgt cac tca tca ctg cag ccg aat ctt 389  
Cys Pro Lys Val Leu Pro Cys His Ser Ser Leu Gln Pro Asn Leu  
25 30 35

<210> 2  
<211> 37  
<212> PRT  
<213> Paramecium sp.

<400> 2  
Met Val Ser Met Phe Ser Leu Ser Phe Lys Trp Pro Gly Phe Cys Leu  
1 5 10 15

Phe Val Cys Leu Phe Gln Cys Pro Lys Val Leu Pro Cys His Ser Ser  
20 25 30

Leu Gln Pro Asn Leu  
35

<210> 3  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Designed peptide based on size and polarity to act as a linker between the alpha and beta chains of Protein XYZ.

<400> 3  
Met Val Asn Leu Glu Pro Met His Thr Glu Ile  
1 5 10

<210> 4  
<400> 4  
000

identifiers and their accompanying information as shown in the following table. The numeric identifier shall be used only in the "Sequence Listing." The order and presentation of the items of information in the "Sequence Listing" shall conform to the arrangement given below. Each item of information shall begin on a new line and shall begin with the numeric identifier enclosed in angle brackets as shown. The submission of those items of information designated with an "M" is mandatory. The submission of those items of information designated with an "O" is optional. Numeric identifiers <110> through <170> shall only be set forth at the beginning of the "Sequence Listing." The following table illustrates the numeric identifiers.

| Numeric Identifier | Definition                    | Comments and Format   | Mandatory (M) or Optional (O)  |
|--------------------|-------------------------------|---|--|
| <110>              | Applicant                     | Preferably max. of 10 names; one name per line; preferable format: Surname, Other Names and/or Initials | M  |
| <120>              | Title of Invention            |   | M  |
| <130>              | File Reference                | Personal file reference   | M when filed prior to assignment of appl. number                     |
| <140>              | Current Application Number    | Specify as: US 07/999,999 or PCT/US96/99999   | M, if available  |
| <141>              | Current Filing Date           | Specify as: yyyy-mm-dd  | M, if available  |
| <150>              | Prior Application Number      | Specify as: US 07/999,999 or PCT/US96/99999   | M, if applicable include priority documents under 35 USC 119 and 120 |
| <151>              | Prior Application Filing Date | Specify as: yyyy-mm-dd  | M, if applicable   |
| <160>              | Number of SEQ ID NOs          | Count includes total number of SEQ ID NOs   | M  |
| <170>              | Software                      | Name of software used to create the Sequence Listing  | O  |
| <210>              | SEQ ID NO:#:                  | Response shall be an integer representing the SEQ ID NO shown   | M  |
| <211>              | Length                        | Respond with an integer expressing the number of bases or amino acid residues                           | M  |

|       |          |  |  |
|-------|----------|--|--|
| <212> | Type     | Whether presented sequence molecule is DNA, RNA, or PRT (protein). If a nucleotide sequence contains both DNA and RNA fragments, the type shall be "DNA." In addition, the combined DNA/RNA molecule shall be further described in the <220> to <223> feature section. | M  |
| <213> | Organism | Scientific name, i.e. Genus/species, Unknown or Artificial Sequence. In addition, the "Unknown" or "Artificial Sequence" organisms shall be further described in the <220> to <223> feature section.   | M  |
| <220> | Feature  | Leave blank after <220>. <221-223> provide for a description of points of biological significance in the sequence.   | M, under the following conditions: if "n," "Xaa," or a modified or unusual L-amino acid or modified base was used in a sequence; if ORGANISM is "Artificial Sequence" or "Unknown"; if molecule is combined DNA/RNA. |
| <221> | Name/Key | Provide appropriate identifier for feature, preferably from WIPO Standard ST.25 (1998), Appendix 2, Tables 5 and 6   | M, under the following conditions: if "n," "Xaa," or a modified or unusual L-amino acid or modified base was used in a sequence  |
| <222> | Location | Specify location within sequence; where appropriate state number of first and last bases/amino acids   | M, under the following conditions: if "n," "Xaa," or a modified or unusual L-amino acid or modified  |

|       |                           |  |  |
|-------|---------------------------|--|--|
|       |                           | in feature   | base was used in a sequence  |
| <223> | Other Information         | Other relevant information; four lines maximum   | M, under the following conditions: if "n," "Xaa," or a modified or unusual L-amino acid or modified base was used in a sequence; if ORGANISM is "Artificial Sequence" or "Unknown"; if molecule is combined DNA/RNA. |
| <300> | Publication Information   | Leave blank after <300>  | 0  |
| <301> | Authors                   | Preferably max of ten named authors of publication; specify one name per line; preferable format: Surname, Other Names and/or Initials | 0  |
| <302> | Title                     |  | 0  |
| <303> | Journal                   |  | 0  |
| <304> | Volume                    |  | 0  |
| <305> | Issue                     |  | 0  |
| <306> | Pages                     |  | 0  |
| <307> | Date                      | Journal date on which data published; specify as yyyy-mm-dd, MMM-yyyy or Season-yyyy   | 0  |
| <308> | Database Accession Number | Accession number assigned by database including database name  | 0  |
| <309> | Database Entry Date       | Date of entry in database; specify as yyyy-mm-dd or MMM-yyyy   | 0  |
| <310> | Patent Document Number    | Document number; for patent-type citations only. Specify as, for example, US 07/999,999  | 0  |

|       |                    |  |   |
|-------|--------------------|--|---|
| <311> | Patent Filing Date | Document filing date, for patent-type citations only; specify as yyyy-mm-dd                                | O |
| <312> | Publication Date   | Document publication date, for patent-type citations only; specify as yyyy-mm-dd                           | O |
| <313> | Relevant Residues  | FROM (position) TO (position)  | O |
| <400> | Sequence           | SEQ ID NO should follow the numeric identifier and should appear on the line preceding the actual sequence | M |

5. Section 1.824 is revised to read as follows:

1.824 Form and format for nucleotide and/or amino acid sequence submissions in computer readable form.

(a) The computer readable form required by 1.821(c) shall meet the following specifications:

(1) The computer readable form shall contain a single "Sequence Listing" as either a diskette, series of diskettes, or other permissible media outlined in paragraph (c) of this section.

(2) The "Sequence Listing" in paragraph (a) (1) of this section shall be submitted in American Standard Code for Information Interchange (ASCII) text. No other formats shall be allowed.

(3) The computer readable form may be created by any means, such as word processors, nucleotide/amino acid sequence editors or other custom computer programs; however, it shall conform to all specifications detailed in this section.

(4) File compression is acceptable when using diskette media, so long as the compressed file is in a self-extracting format that will decompress on one of the systems described in paragraph (b) of this section.

(5) Page numbering shall not appear within the computer readable form version of the "Sequence Listing" file.

(6) All computer readable forms shall have a label permanently affixed thereto on which has been hand-printed or typed: the name of the applicant, the title of the invention, the date on which the data were recorded on the computer readable form, the operating system used, a reference number, and an application serial number and filing date, if known.

(b) Computer readable form submissions must meet these format requirements:

(1) Computer: IBM PC/XT/AT, or compatibles, or Apple Macintosh;

(2) Operating System: MS-DOS, Unix or Macintosh;